



U.S. Department of the Interior
Bureau of Land Management

Your Public Lands

Greg Liggett BLM Paleontologist





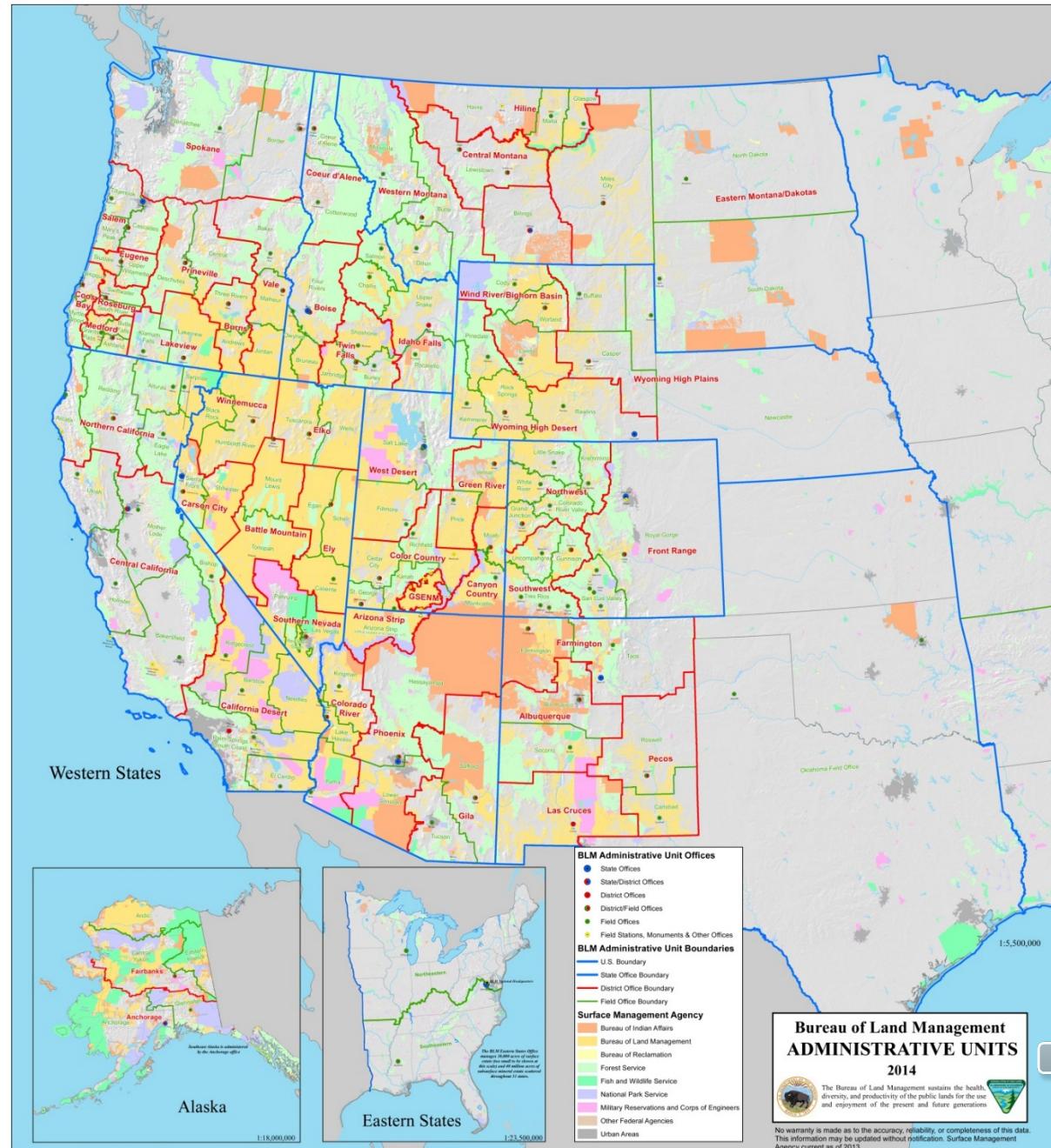
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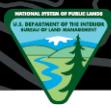




270 Million Surface
Acres

700 Million
Subsurface Acres





BLM Contacts

Contact	States
Greg Liggett gliggett@blm.gov	Montana, North Dakota, South Dakota
Brent Breithaupt bbreitha@blm.gov	Alaska, Wyoming, Nebraska, and Idaho
Greg McDonald hmcdonald@blm.gov	Colorado, Utah, Nevada, Oregon, and Washington
Phil Gensler pgensler@blm.gov	New Mexico, Arizona, California





RAPTOR

- Recreation And Permit Tracking Online Reporting

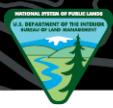




RAPTOR

- Is in development right now, and is planned to be the system for BLM authorization application, authorization processing, and authorization reporting
- Will be used by BLM nation-wide
- Will facilitate the creation of a national data set of paleontology localities in GIS form





RAPTOR

- Researchers will go online to apply for permits
- Researchers will submit reports online
- Researchers will put locality data into a digital format to submit to RAPTOR





RAPTOR

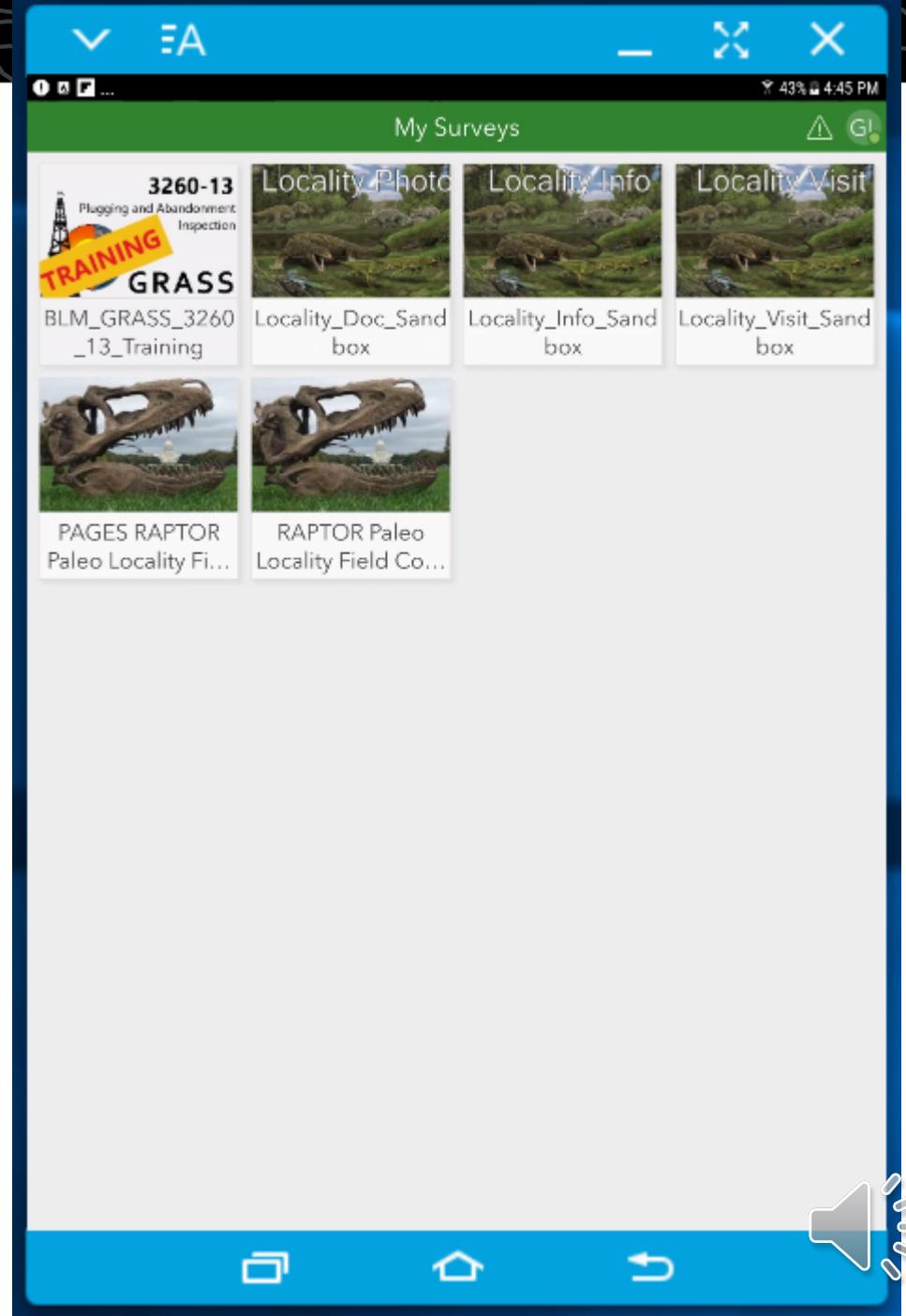
- We will provide some tools to assist in getting the data into the proper format
- Right now we anticipate having
 - A Survey123 project
 - An Access database
 - An excel spreadsheet format

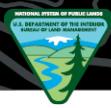




RAPTOR

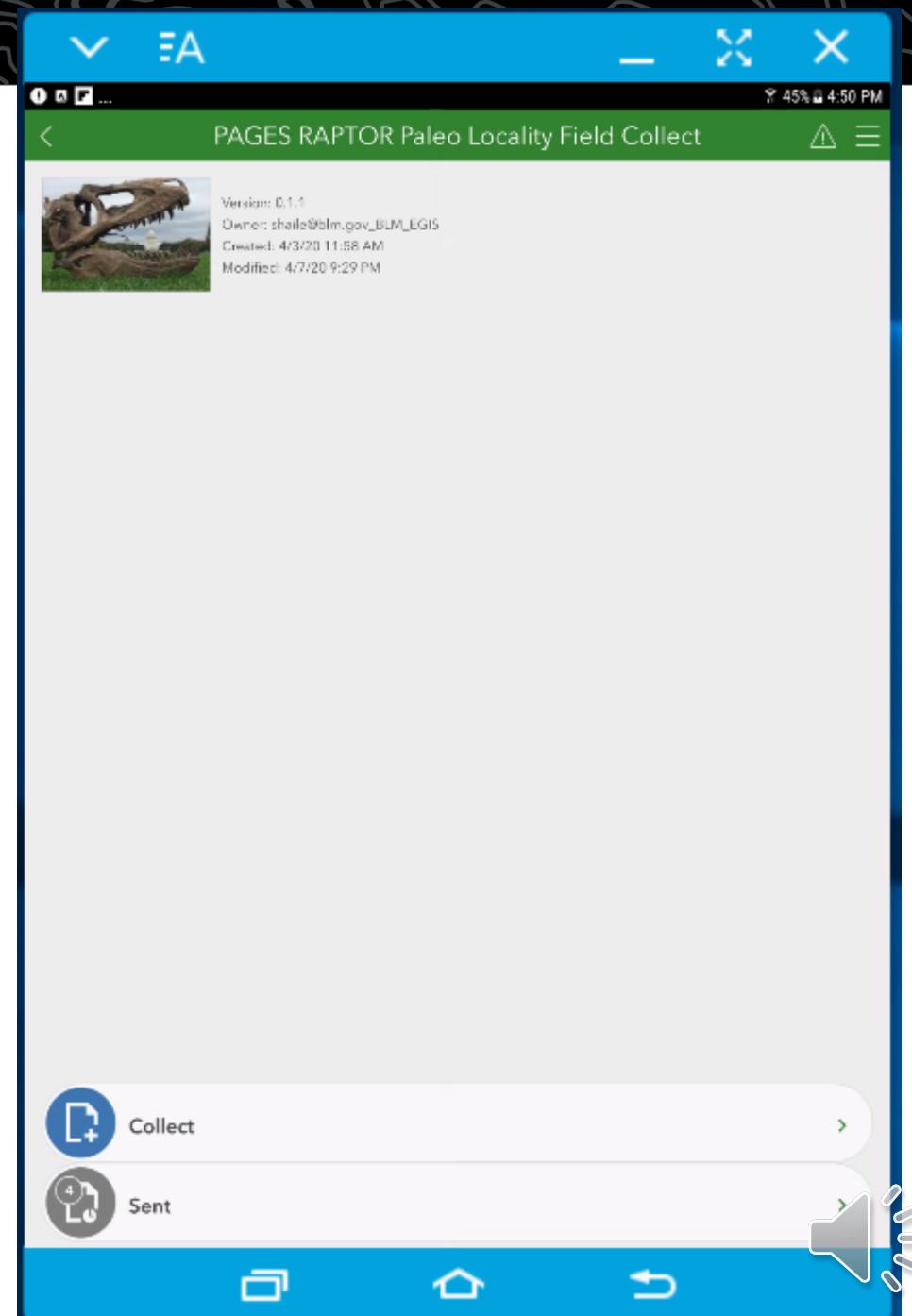
- Survey123 requires that you have access to ArcGIS Online (AGOL)
- BLM would provide an empty fGDB with all the fields and domain values included
- Survey123 file can be downloaded to a mobile device to collect data offline in the field





RAPTOR

- You open the survey, then select “Collect”





RAPTOR

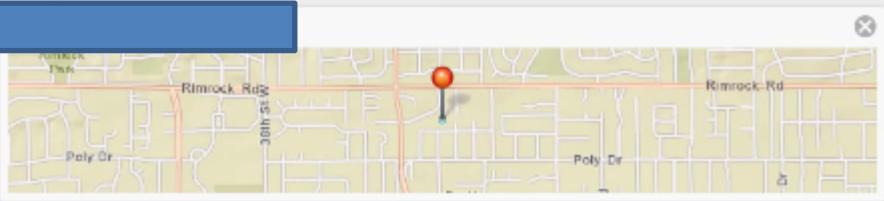
- If your device is GPS enabled, it will snap to your location.
- Good for collecting the data right in the field
- Required fields are marked with red star and explanation text for the fields

EA

X BLM Paleo Locality Field Collect △ ⚓

If capturing locality's location using GPS and currently standing at the locality, its location will automatically be captured for you. If you are not capturing via GPS or not at locality's location, use map below to manually enter locality's location (map requires network connectivity).

Locality XY Location *



Locality Name *

Your name for this locality.

Date of Discovery *

Tuesday, April 14, 2020

Your Locality Field Number *

Other Locality Number

Any number known to be associated with the locality, ex: museum locality number.

Locality Found By

Locality Recorded By

gliggett_BLM

Evidence of Theft? *

1 of 4

□ ⌂ ⌄ ⌅ 🔍



RAPTOR

- Many fields have domain values to select from, like formation names and geologic time names. Users can begin typing to narrow the list then select with the radio button.

The screenshot shows the "Geologic Info" screen of the BLM Paleo Locality Field Collect application. At the top, there is a search bar with the placeholder text "Geologic Unit or Formation *". Below the search bar, a note states: "Formations are grouped by state, enter 2-letter state code to begin narrowing list then scroll through the list. If desired rock unit is not in the list, choose XX - Other and enter unit name in the Locality General Remarks field." A dropdown menu is open, showing the search term "mt - hell" and a single result: "MT - Hell Creek".

Below the search area, there are three sections: "Earliest Geologic Time", "Latest Geologic Time", and "Stratigraphic Position Description". The "Earliest Geologic Time" section contains a dropdown menu with the placeholder text "maa" and a single result: "Maastrichtian; Upper Cretaceous; Cretaceous; Mesozoic". The "Latest Geologic Time" section has a dropdown menu with no visible results. The "Stratigraphic Position Description" section has a placeholder text box with the instruction: "Indicate relation to marker bed or sub unit not listed in the Geologic Formation." Below these sections are fields for "Site Lithology *", "Depositional Environment", and navigation controls at the bottom.



RAPTOR

- All locality data is entered over four pages of questions logically organized

EA

BLM Paleo Locality Field Collect

Fossil Types Observed

Plant Fossils? *

YES NO

Plant Fossil Traces? *

YES NO

Vertebrate Fossils? *

YES NO

Vertebrate Microfossils? *

YES NO

Vertebrate Fossil Traces? *

YES NO

Invertebrate Fossils? *

YES NO

Invertebrate Fossil Traces? *

YES NO

Nonvertebrate Micro Fossils? *

YES NO

< 3 of 4 >

Speaker icon



RAPTOR

- User enters details of the fossil either collected or observed at the site, include taxonomic details
- Higher level taxa are included for field IDs
- Multiple taxa can be added to the locality record
- Checking the checkmark finishes the form. If you are offline it will save in device until it can be uploaded

The screenshot shows the 'Specimen Data Entry' screen of the RAPTOR app. At the top, there's a header bar with the title 'EA' and battery/ signal icons. Below the header, the title 'BLM Paleo Locality Field Collect' is displayed. The main section is titled 'Specimens Observed or Collected'. It includes fields for 'Taxon Name' (set to 'Quetzalcoatlus'), 'Taxon Identification Qualifier' (set to 'sp.'), 'Action Performed in the Field' (radio button selected for 'Collected'), 'Person Identifying or Collecting' (set to 'gliggett_BLM'), 'Specimen in Situ?' (radio button selected for 'YES'), and 'Specimen Comments' (text area containing 'Most amazing specimen ever!'). A note at the bottom says 'To add another specimen observation record, tap the plus (+) button.' The bottom navigation bar includes icons for back, forward, home, and search.



RAPTOR

- Using this tool users will have recorded all their locality data required for reporting when they leave the field!
- We are excited about this system and look forward to its launch

